

**REMARKS**

By this amendment, claims 1 and 8 are amended, and claims 22-26 are added for the Examiner's consideration. The above new claims do not add new matter to the application and are fully supported by the specification. For example, support for the amendment to claim 1 and new claims 22-26 can be found in the figures and paragraph [0036] of the instant published application No. 2005/0266652. Reconsideration of the rejected claims in view of the above amendments and the following remarks is respectfully requested.

***35 U.S.C. §102(e) Rejection***

Claims 1, 4, 5 and 7-10 are rejected under 35 U.S.C. §102(e) as being anticipated by US Patent No. 6,762,107 to WATANABE et al. This rejection is respectfully traversed.

In order to establish a *prima facie* case of anticipation under 35 U.S.C. § 102, a single prior art reference must disclose each and every element as set forth in the subject claim. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). Applicants respectfully submit that a *prima facie* case of anticipation cannot be established because WATANABE fails to teach each and every element of the claims.

In particular, independent claim 1 recites, *inter alia*,  
wherein the at least one lower surface expansion structure and the at least one upper surface expansion structure are vertically arranged.

Applicants submit that WATANABE does not disclose, or even suggest, at least these features.

Applicants acknowledge, for example, that WATANABE discloses a capacitor which utilizes separated electrodes 5 and 7 and a separating insulator layer 6.

However, whereas the invention utilizes vertically arranged lower and upper surface expansion structures (claim 1), the device is WATANABE merely utilizes horizontal layers 9 and 10 between the electrodes 5 and 7 (see Fig. 1). Thus, Applicants respectfully submit that independent claim 1, and dependent claims 4, 5 and 7-10, are allowable.

Accordingly, Applicants respectfully submit that the rejection under 35 U.S.C. § 102(e) should be withdrawn.

### ***35 U.S.C. § 103 Rejections***

#### *Over Watanabe with An*

Claim 2 was rejected under 35 U.S.C. § 103(a) for being allegedly unpatentable over WATANABE in view of U.S. Patent No. 6,686,620 to AN et al. This rejection is respectfully traversed.

The Examiner acknowledges that WATANABE fails to disclose, among other things, the recited planarizing. However, the Examiner explains that this features is taught by AN, and that it would have been obvious to combine the teachings of these documents.

Applicants respectfully submit that a *prima facie* case of obviousness has not been established as the applied references fail to teach each and every element of the

claims.

As explained above, while Applicants acknowledge, for example, that WATANABE discloses a capacitor which utilizes separated electrodes 5 and 7 and a separating insulator layer 6, the device is WATANABE merely utilizes horizontal layers 9 and 10 (see Fig. 1). The invention, on the other hand, utilizes vertically arranged lower and upper surface expansion structures (claim 1).

AN does not cure the deficiencies of WATANABE. AN relates to a FRAM and not to a capacitor. Furthermore, the Examiner has not shown how AN can be read to disclose a capacitor having vertically arranged lower and upper surface expansion structures (claim 1).

Accordingly, Applicants submit that no proper combination of WATANABE and AN discloses or suggests the combination of features recited in at least claim 1.

Moreover, in addition to failing to disclose the combination of features recited in the above-noted claim 1, Applicants submit no proper combination of these documents discloses or suggests the combination of features recited in dependent claim 2, which also respectfully contain all of the features of claim 1.

Accordingly, Applicants respectfully submit that the above-noted rejection under 35 U.S.C. § 103(a) should be withdrawn.

Over Watanabe with Wohlfahrt

Claim 3 was rejected under 35 U.S.C. § 103(a) for being allegedly unpatentable over WATANABE in view of U.S. Patent No. 6,720,598 to WOHLFAHRT. This rejection is respectfully traversed.

The Examiner acknowledges that WATANABE fails to disclose, among other

things, the recited capacitive coupling. However, the Examiner explains that this feature is taught by WOHLFAHRT, and that it would have been obvious to combine the teachings of these documents.

Applicants respectfully submit that a *prima facie* case of obviousness has not been established as the applied references fail to teach each and every element of the claims.

As explained above, while Applicants acknowledge, for example, that WATANABE discloses a capacitor which utilizes separated electrodes 5 and 7 and a separating insulator layer 6, the device is WATANABE merely utilizes horizontal layers 9 and 10 (see Fig. 1). The invention, on the other hand, utilizes vertically arranged lower and upper surface expansion structures (claim 1).

WOHLFAHRT does not cure the deficiencies of WATANABE. While it is apparent that WOHLFAHRT relates to a capacitor, the Examiner has not shown how WOHLFAHRT can be read to disclose a capacitor having vertically arranged lower and upper surface expansion structures (claim 1).

Accordingly, Applicants submit that no proper combination of WATANABE and WOHLFAHRT discloses or suggests the combination of features recited in at least claim 1.

Moreover, in addition to failing to disclose the combination of features recited in the above-noted claim 1, Applicants submit no proper combination of these documents discloses or suggests the combination of features recited in dependent claim 3, which also respectfully contain all of the features of claim 1.

Accordingly, Applicants respectfully submit that the above-noted rejection under

35 U.S.C. § 103(a) should be withdrawn.

Over Watanabe with Chi

Claim 6 was rejected under 35 U.S.C. § 103(a) for being allegedly unpatentable over WATANABE in view of U.S. Patent No. 6,362,012 to CHI et al. This rejection is respectfully traversed.

The Examiner acknowledges that WATANABE fails to disclose, among other things, the recited spiral structure. However, the Examiner explains that this feature is taught by CHI, and that it would have been obvious to combine the teachings of these documents.

Applicants respectfully submit that a *prima facie* case of obviousness has not been established as the applied references fail to teach each and every element of the claims.

As explained above, while Applicants acknowledge, for example, that WATANABE discloses a capacitor which utilizes separated electrodes 5 and 7 and a separating insulator layer 6, the device is WATANABE merely utilizes horizontal layers 9 and 10 (see Fig. 1). The invention, on the other hand, utilizes vertically arranged lower and upper surface expansion structures (claim 1).

CHI does not cure the deficiencies of WATANABE. While it is apparent that CHI relates to a capacitor, the Examiner has not shown how CHI can be read to disclose a capacitor having vertically arranged lower and upper surface expansion structures (claim 1).

Accordingly, Applicants submit that no proper combination of WATANABE and CHI discloses or suggests the combination of features recited in at least claim 1.

Moreover, in addition to failing to disclose the combination of features recited in the above-noted claim 1, Applicants submit no proper combination of these documents discloses or suggests the combination of features recited in dependent claim 6, which also respectfully contain all of the features of claim 1.

Accordingly, Applicants respectfully submit that the above-noted rejection under 35 U.S.C. § 103(a) should be withdrawn.

Over Watanabe with Radens

Claim 11 was rejected under 35 U.S.C. § 103(a) for being allegedly unpatentable over WATANABE in view of U.S. Patent No. 6,794,726 to RADENS et al. This rejection is respectfully traversed.

The Examiner acknowledges that WATANABE fails to disclose, among other things, the recited features of claim 11. However, the Examiner explains that these features are taught by RADENS, and that it would have been obvious to combine the teachings of these documents.

Applicants respectfully submit that a *prima facie* case of obviousness has not been established as the applied references fail to teach each and every element of the claims.

As explained above, while Applicants acknowledge, for example, that WATANABE discloses a capacitor which utilizes separated electrodes 5 and 7 and a separating insulator layer 6, the device is WATANABE merely utilizes horizontal layers 9 and 10 (see Fig. 1). The invention, on the other hand, utilizes vertically arranged lower and upper surface expansion structures (claim 1).

RADENS does not cure the deficiencies of WATANABE. RADENS relates to an

antifuse and not to a capacitor. Furthermore, the Examiner has not shown how RADENS can be read to disclose a capacitor having vertically arranged lower and upper surface expansion structures (claim 1).

Accordingly, Applicants submit that no proper combination of WATANABE and RADENS discloses or suggests the combination of features recited in at least claim 1.

Moreover, in addition to failing to disclose the combination of features recited in the above-noted claim 1, Applicants submit no proper combination of these documents discloses or suggests the combination of features recited in dependent claim 11, which also respectfully contain all of the features of claim 1.

Accordingly, Applicants respectfully submit that the above-noted rejection under 35 U.S.C. § 103(a) should be withdrawn.

***New Claims are also Allowable***

Applicants submit that the new claims 22-26 are allowable over the applied art of record. Specifically, claim 22 depends from claim 1 which is believed to be allowable. Furthermore, claims 22-26 recite a combination of features which are clearly not disclosed or suggested by the applied art of record. Accordingly, Applicants respectfully request consideration of these claims and further requests that the above-noted claims be indicated as being allowable.

**CONCLUSION**

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to

issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby make a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to **IBM Deposit Account No. 09-0456** (Burlington).

Respectfully submitted,  
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